

## *Species of Habitat Fragmentation Concern*

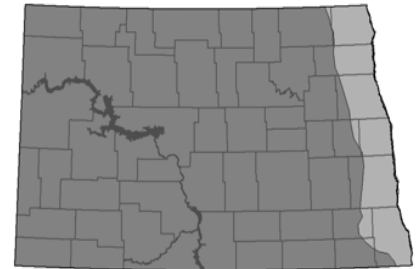
**Species:** Northern Harrier (*Circus cyaneus*)

**Habitat Preference in North Dakota:** Seasonal resident, species nests in North Dakota. Typical habitat includes open wetlands, including wet meadows, lightly grazed pastures; old fields, dry uplands, including upland prairies, and grasslands (Smith et al., 2011).



Credit: USDA Forest Service.

**Habitat Fragmentation Concerns:** Species of Conservation Priority in North Dakota (Level II; Hagen et al., 2005). Although Northern Harriers are fairly common in North Dakota, populations are unstable due to loss of grassland and wetland habitat (Hagen et al., 2005). Density of Northern Harriers are sensitive to habitat patch size (Ribic et al., 2009). Loss or increased fragmentation of available habitat may impact breeding success of species. Disappears as a breeder if woody cover exceeds 30% in northern Great Plains grasslands (Winter et al. 2006).



**Map of Species Range in North Dakota**  
Source: Hagen et al., 2005

### **General Review Literature:**

- Hagen, S.K., P.T. Isakson, and S.R. Dyke. 2005. North Dakota Comprehensive Wildlife Conservation Strategy. North Dakota Game and Fish Department. Bismarck, ND. 454 pp.  
<http://gf.nd.gov/conservation/cwcs.html>
- Ribic, C.A., R.R. Koford, J.R. Herkert, D.H. Johnson, N.D. Niemuth, D.E. Naugle, K.K. Bakker, D.W. Sample, and R.B. Renfrew. 2009. Area sensitivity in North American grassland birds: Patterns and process. *Auk* 126:233-244.
- Smith, K. G., S. R. Wittenberg, R. B. Macwhirter and K. L. Bildstein. 2011. Northern Harrier (*Circus cyaneus*), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/210>
- Winter, M., D. H. Johnson, and J. A. Shaffer. 2006. Does body size affect a bird's sensitivity to patch size and landscape structure? *Condor* 108(4):808-816.

Additional Species Management Information: <http://www.npwrc.usgs.gov/resource/literatr/grasbird/noha/noha.htm>